The only aspect of bodybuilding more important than training effort is attention to adequate recovery.

Recovering from your workout begins the moment you end your last set, and it's recovery**, perhaps even more so than the workout itself**, that is vital for making progress. If you blast several muscle groups in a workout, recovery actually begins **during your workout**, when you transition from one muscle group to another! As a matter of fact, recovering **between sets** dictates the nature of training stimulus, so recovery actually starts **after your very :irst set**.

The vital nature of recovery for making gains is why we've created **Recovery:** A precise combination of electrolytes, carbohydrates, essential amino acids (EAAs), and Sensoril® ashwagandha extract, to preserve and replenish precious muscle **glycogen**, and get an **anabolic / anti-catabolic** jump-start on recovering from your workouts.

Recovery – Around the Clock

To prepare for battle, a warrior arms himself **before** stepping on the battleGield. Therefore, we suggest you start consuming **Recovery** 10-15 minutes **before** and **throughout** your workout to enhance recovery from start to Ginish. And because these sessions can be brutal (and long), we've added the major electrolytes lost in sweat[1] to help keep you well hydrated[2,3]. Additionally, electrolytes help with taste[4], and we've balanced our Glavoring system with a variety of mineral salts to make sure **Recovery** tastes ridiculously good.

You'd be mistaken if you think we've just concocted a fruity drink you might sip on the beach. The meat n' potatoes components of **Recovery** work their magic with carefully chosen carbohydrates, EAAs and one of the worlds best adaptogens: • Performance **Carbohydrate combination** with N-Acetyl L-Tyrosine • **Essential Amino Acid** Blend
• Sensoril® **Ashwagandha** Extract

Recovery: A Strategized Supplement Synergy
When it comes down to it, making muscular gains is about going beyond simply recovery: Building muscle size, day by day, inch by inch, requires a **net positive** effect on muscle protein balance. Reducing **muscle breakdown** [probably by increasing **insulin** levels[5,6]] is one way that including **carbs** in your peri-workout[7-10] recovery drink gets this done. Intra-workout carbs also reduce post-exercise **cortisol**[11], a important predictor of muscle growth over the long haul[12,13]. Admittedly though, the science is a actually bit fuzzy as to the acute[14,15] and long haul beneGits[16] of peri-workout carbs for packing on size per se, but including carbs in a recovery drink primes your muscles for restoring **glycogen**[17,18] (see Cyclic Dextrin®

below) and there's certainly **no disadvantage** to intra-workout carbohydrate[19]. Before we get into the details of **Recovery**, be sure you don't lose sight of the **big picture** when crafting your intra- and post-workout **strategy**. Intra-workout nutrition is just one piece of the puzzle: Substantial gains may very well mean consuming **more carbohydrate** and/or **protein** (and **calories**!) than subjects following most research protocols. For example, supersizing your post-workout carbohydrate (e.g., with 90-100g of carbs) may[8] or may not[20] inhibit protein breakdown. However, a glycogen-Gilled muscle cell is generally a more anabolic one[7] and a brutal weight training workout dramatically elevates metabolic rate[21,22], and can even temporarily prohibit glycogen replenishment despite eating a high carbohydrate diet[23]. This may be why one study found that hard training plus massive (>350g) carbohydrate supplementation (even without additional protein!) produces substantial gains in muscle mass without increased body fat[24].

Obviously protein has its role, too. While consuming more than ~40g of post workout **protein** may not further increase protein **synthesis**[25-27], doubling this amount[28,29]!] creates the **positive protein balance** we want by blunting protein **breakdown**. While adding more and more protein to the diet beyond a certain point[30,31] isn't a magic bullet for building more muscle, there is also little risk of adverse health effects or gaining body fat from simply from eating large amounts of protein[32-34].

Given the above, we've created **Recovery** as a way to jumpstart a recovery strategy based on a sound diet replete with carbs, protein, and calories.

Performance Carbohydrate and N-Acetyl L-Tyrosine

• **Recovery** contains **highly branched cyclic dextrin** (as 15 grams of Cyclic Dextrin®) to enhance gastric emptying[35] and minimize gastrointestinal discomfort during exercise [including burping and gas, which your training partner beneGit will appreciate[36]]. By more rapidly ushering glucose from the stomach[37,38] to the small intestine and blood stream[39], Cyclic Dextrin® can improve performance[40-42], and maintain higher glycogen levels[43], giving you a head start on recovering for your next workout[44].

• **N-Acetyl L-Tyrosine** is **Recovery's** soluble source of L-tyrosine[46-48], a precursor for catecholamine synthesis (e.g., noradrenaline and dopamine)[49-51], thus supporting brain neurotransmitter levels[52] and cognitive performance[53,54]. When under duress (e.g., during a killer workout), tyrosine supplementation may actually promote the aggressive mentality[55] needed to drive through previous performance barriers.

Essential Amino Acid Blend

• We included the **Essential Amino Acids (EAAs)** because it's the dietarily **essential** [not the non-essential[56]] **amino acids** that trigger muscle protein synthesis[57-59]. Leucine (3g) sits atop this EAA stack because of it's primacy in triggering protein anabolism[60-62]. We were sure to focus on the other branched

chain aminos (BCAAs; Isoleucine and Valine at 1.5g each) as well, because the BCAAs are known to reduce muscle breakdown and post-exercise soreness and damage[63,64].

• The other EAAs blended in the **Recovery** are based on the anabolic EAA mixture used extensively in research[57,65-68], adjusted slightly to take advantage of the anabolic signaling[61] and insulin-releasing[69] effects of lysine and phenylalanine.

Sensoril® Ashwagandha Extract

• A successful training and diet cycle takes weeks of committed and continuous effort. Nobody wants to be a Glash in the pan, so to speak, so we've included **ashwagandha** (*Withania somnifera* extract; 125mg of Sensoril® stardardized for **withanolide glycoside conjugates**, oligosachharides and withaferin A) to ensure **Recovery** has keep you adapting long after your workout. Also known as Indian ginseng, ashwagandha is an "adaptogenic" herb that's been used for centuries in Ayurveda and traditional Indian medicine to relieve stress, promote vitality[70], enhance adaptation and normalize physiological function[71-73].

The age-old hype about ashwagandha's effects may just be real, going by the small but growing body of Western scientiGic literature. In rodent research, this herb appears to be both **anabolic** to skeletal muscle[74] and **anti-arthritic**[75]. In men supplementing for approximately 2 months, ashwagandha can elevate testosterone, luteinizing hormone and antioxidant status, all the while improving sperm count, motility and metabolism[76-78]. Ashwagandha has also relieved fatigue and improved qualify of life of women undergoing breast cancer chemotherapy[79]. Extract from this adaptogenic plant has also been shown to **reduce cortisol**, resting blood pressure and anxiety[70], and even have **cognition-enhancing**, nootropic actions[80,81] – exactly what you need when "diet brain" catches up to you.

The science is starting to unveil Ashwagandha's incredible promise as an ergogenic aid, as well. Supplementing with 1000mg of extract / day (8 weeks) enhanced performance and aerobic power in hard-training endurance cyclists[82], and half that daily dose improved both aerobic, anaerobic and muscular power in college students who were not even engaged in a training program. **Most impressively and important for physique athletes**, a recent study found that men consuming only 300mg ashwagandha extract twice per day grew **more muscle**, gained **more strength** and lost **more body fat** that those taking a placebo, probably because the herb enhanced muscular recovery (reduced muscle damage) **and** increased testosterone[83]. (What more could you ask for?...)

Disclaimer: L-Tyrosine may interact with certain drugs (such as MAOIs, Levodopa and thyroid medications).
These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

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